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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,848	10/24/2001	Dean Warren	884.311US1	5505

7590 05/25/2004

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EXAMINER
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MYERS, PAUL R

ART UNIT	PAPER NUMBER
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2112

DATE MAILED: 05/25/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Handwritten signature

# Office Action Summary

Application No.

10/041,848

Applicant(s)

WARREN ET AL.

Examiner

Paul R. Myers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 10-11, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson, Jr. et al PN 5,081,654 in view of Govindaraman PN 6,707,396.

In regards to claims 1, 10: Stephenson teaches an integrated circuit comprising: a parallel frame delineation module (20) having a plurality of concurrent comparators (32, 34) to delineate received frame boundaries (abstract) within a data stream (22). Stephenson does not teach the parallel frame delineation being in a USB peripheral NRZI data stream including NRZI decoder using parallel data processing. Govindaraman teaches the use of a NRZI decoder module to decode received USB NRZI data using parallel processing. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Stephenson's sync detect as the sync detect in Govindaraman (See figure 1) because this would have for the handling of high speed data streams in parallel (See Stephenson et al Column 2 lines 18-25).

In regards to claim 2: Govindaraman teaches the USB being USB 2.0.

In regards to claim 3: Stephenson teaches a three stage pipeline (latch 28, 28', 28'').

In regards to claim 4: Stephenson does not expressly teach a state machine. Official notice is taken that a state machine is a model of a system in which all values are discrete, as in a digital computer. See IEEE Dictionary. Since all values in Stephenson are discrete it would

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have been obvious to a person of ordinary skill in the art at the time of the invention to use a state machine to control the three stage pipeline of Stephenson because this would have allowed for greater timing control.

In regards to claim 5: Stephenson teaches detecting the start of frame by matching a framing pattern (Column 1 lines 20-26).

In regards to claims 6, 15-16: Stephenson teaches 16 comparators 1-8 of 32 and 1-8 of 34. Thus Stephenson teaches 11 concurrent comparators.

In regards to claim 11: Govindaraman teaches NRZI.

3. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson, Jr. et al PN 5,081,654 and Amoni et al PN 5,884,086.

In regards to claim 7: Amoni et al teaches an apparatus comprising: one or more Universal Serial Bus (USB) connectors (701) to couple to a communications channel carrying a USB data stream; a circuit comprising a USB transceiver, a serial interface engine and apparatus-specific logic (such as mouse, pen, speaker, phone or video). Amoni et al does not teach the USB transceiver having concurrent comparators to delineate received asynchronous game boundaries within the USB data stream and parallel logic to decode received encoded data. Stephenson teaches the concurrent comparators as described above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Stephenson's start of frame detect because this would have for the handling of high speed data streams in parallel (See Stephenson et al Column 2 lines 18-25). Neither teaches the system being on an ASIC. MPEP 2144.04 V B. to make integral is not a patentable distinction.

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In regards to claim 8: Amoni et al teaches a hub.

In regards to claim 9: Amoni et al teaches NRZI (Column 1 lines 47-61).

4. Claims 12-13, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson, Jr. et al PN 5,081,654 in view of Govindaraman PN 6,707,396 as applied to claim 11 above, and further in view of Yamauchi PN 6,041,430.

In regards to claims 12, 17: Stephenson teaches 8-bit fields. Stephenson does not teach a 9 bit field. Yamauchi teaches in a data transmission of 8 bits of data including a 9<sup>th</sup> bit for parity. It would have been obvious to use 9 bit fields including a parity bit because this would have allowed for error correction.

In regards to claim 13: Stephenson teaches concurrently searching 24 bits in 3 frames not including a parity bit for each frame. Including 1 bit for parity in each frame would make up 27 bits.

In regards to claim 18: Stephenson teaches NRZI.

In regards to claim 19: Stephenson does not expressly teach a state machine. Official notice is taken that a state machine is a model of a system in which all values are discrete, as in a digital computer. See IEEE Dictionary. Since all values in Stephenson are discrete it would have been obvious to a person of ordinary skill in the art at the time of the invention to use a state machine to control the three stage pipeline of Stephenson because this would have allowed for greater timing control.

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*Allowable Subject Matter*

5. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to claim 14: The USB 2.0 Specification indicates that the NRZI SOP Sync pattern should be a minimum of 6 kj pairs followed by two k's meaning 01010100. The examiner could find no reason in Govindaraman or Amoni et al which both use the USB 2.0 specification to violate the USB 2.0 specification by making the pattern be 00101010.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 703 305 9656. The examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703 305 4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PRM  
May 19, 2004

PAUL R. MYERS  
PRIMARY EXAMINER